

**Commonwealth of Kentucky**  
**Division for Air Quality**  
***PERMIT STATEMENT OF BASIS***

TITLE V GENERAL PERMIT No. G-04-001 Revision 1  
GENERAL PERMIT FOR NATURAL GAS TRANSMISSION STATIONS AND PROCESSING PLANTS  
JUNE 30, 2006  
CAROLINA ALONSO, REVIEWER

**SOURCE DESCRIPTION:**

At this time, the General Permit No. G-04-001 includes twenty-five Title V Major Source Natural Gas Transmission Stations and Processing Plants in nineteen counties in the Commonwealth of Kentucky. In the future, other facilities may be added or existing facilities removed. A general permit is chosen because of the vast similarities between these stations, the relatively few applicable requirements for any given location and the ease with which the revisions and renewals can be made to the permit itself. This permit is revised for the first time in order to incorporate 401 KAR 51:150, NO<sub>x</sub> requirements for stationary internal combustion engines and 40 CFR 60 Subpart KKKK, Standards of Performance For Stationary Combustion Turbines. This permit includes twenty four sources since one source has ceased operation.

A Natural Gas Transmission Station, for the purposes of this General Permit, receives natural gas via pipeline or from any storage facility and compresses, or transmits, the natural gas for transport to another location via pipeline.

A Natural Gas Processing Plant, for the purposes of this General Permit, receives natural gas from natural gas fields, pipelines or from any storage facility and either extracts natural gas liquids from field gas, or fractionates mixed natural gas liquids to natural gas products, or both.

**I      Type of control and efficiency**

Several control schemes and options for the equipment listed below (some are included) but for the most part, natural gas combustion at the transmission stations is uncontrolled and relies on good maintenance and operations to minimize environmental impact. Emissions at the processing plants are more closely regulated by 40 CFR 60 Subpart KKK and LLL with specific requirements given depending on the type of equipment.

**A. Natural Gas Transmission Stations**

1. Indirect Heat Exchangers: Afterburners
2. Reciprocating Compressors: Catalytic converters, afterburners
3. Standby Generators: Afterburners
4. Turbines: Afterburners
5. Glycol Dehydrators: Thermal vapor incinerator, boiler, process heater
6. Storage Tanks: Tank Seals

**B. Natural Gas Processing Plants**

1. Closed vent systems
2. Flares (conversion of H<sub>2</sub>S to SO<sub>2</sub>)

## II Emission factors

Emission factors were mainly obtained from AP-42.

## III Applicable Regulations

### A. Natural Gas Transmission Stations and Processing Plants

#### 1. Indirect heat exchangers:

401 KAR 61:015, Existing indirect heat exchangers

401 KAR 59:015, New indirect heat exchangers

401 KAR 60:005 incorporating 40 CFR 60 Subpart Dc, Standards of performance for small industrial-commercial-institutional steam generating units, by reference

#### 2. Reciprocating compressors:

40 CFR 63 Subpart ZZZZ, National Emission Standards for Hazardous Pollutants for Stationary Reciprocating Internal Combustion Engines

401 KAR 51:150, NOx requirements for stationary internal combustion engines

#### 3. Standby generators:

40 CFR 63 Subpart ZZZZ, National Emission Standards for Hazardous Pollutants for Stationary Reciprocating Internal Combustion Engines

#### 4. Gas turbines

401 KAR 60:005 incorporating 40 CFR 60 Subpart GG, Standards of Performance for Stationary Gas Turbines, by reference.

40 CFR 63 Subpart YYYY, National Emission Standards for Hazardous Air Pollutants for Stationary Combustion Turbines

401 KAR 51:150, NOx requirements for stationary internal combustion engines

40 CFR 60 Subpart KKKK, Standards of Performance For Stationary Combustion Turbines

#### 5. Glycol dehydrators

401 KAR 63:002 incorporating 40 CFR Part 63 Subpart HHH, National Emission Standards for Hazardous Air Pollutants From Natural Gas Transmission and Storage Facilities, by reference.

#### 6. Storage tanks

401 KAR 60:005 incorporating 40 CFR 60 Subpart Kb, Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) by reference.

401 KAR 61:050, Existing storage vessels for petroleum liquids

401 KAR 59:050, New storage vessels for petroleum products

### B. Other Regulations:

401 KAR 60:630 (40 CFR 60 Subpart KKK) Standards of Performance for Equipment Leaks of VOC from Onshore Natural Gas Processing Plants

401 KAR 60:640 (40 CFR 60 Subpart LLL) Standards of Performance for Onshore Natural Gas Processing: SO<sub>2</sub> Emissions

40 CFR 64, Compliance Assurance Monitoring

40 CFR 63 Subpart DDDDD, National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters

STATEMENT OF BASIS

G-04-001 Revision 1

Page 3 of 3

**CREDIBLE EVIDENCE:**

This permit contains provisions which require that specific test methods, monitoring or recordkeeping be used as a demonstration of compliance with permit limits. On February 24, 1997, the U.S. EPA promulgated revisions to the following federal regulations: 40 CFR Part 51, Sec. 51.212; 40 CFR Part 52, Sec. 52.12; 40 CFR Part 52, Sec. 52.30; 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12, that allow the use of credible evidence to establish compliance with applicable requirements. At the issuance of this permit, Kentucky has only adopted the provisions of 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12 into its air quality regulations.